REMARKS

Claims 28 is amended herein. Upon entry of this amendment, claims 28, 29, 34, 38, 39, 43, and 47 remain pending in this application.

Support for the amendment of claim 28 is found in paragraph 0034 which refers to a "heat treatment" and further is based on knowledge and common practice that heat treatment involves raising the temperature of a component being heated through an intermediate temperature range to a desired 'final' or 'end-point' temperature. Entry is respectfully requested.

Applicants provide below clarifications in hopes that the Examiner will withdraw at least one of the 35 USC 112 rejections to place this application in better condition for appeal. Applicants also provide argument with support in hopes of allowance to avoid the need to appeal.

Claim Rejections Under 35 USC 112

Claims 28, 29, 34, 38, 39, 43, and 47 stand rejected under 35 USC 112, first paragraph, as allegedly failing to comply with the written description requirement.

In this rejection it is stated that neither support can be located, nor that a description in the specification can be found, as to "both the conversion to aluminum rich beta phase and the gamma prime phase not reforming occur[ing] at the same time or for that matter at the same temperature." The proposed amendment to claim 28 is believed to overcome the Examiner's alleged requirement to have a simultaneous occurrence of the claimed limitations. If entry of this amendment is not allowed, the following applies in its entirety to claim 28 and its dependent claims as well as to the indicated claims.

As to claims 38 and its dependent claims, Applicants respectfully assert that the Examiner's alleged requirement for a simultaneous occurrence is not required by the claimed methods which include the limitation, ". . . heat treating the remaining portion of the bonding layer at a temperature sufficient to convert gamma and gamma prime phases in degradations in the remaining portion to an aluminum rich beta phase, and to prevent the gamma prime phase from reforming; . . . ". It is generally known to those skilled in the art that heat treating is an incremental process that includes the object being heat treated passing from an initial temperature through intermediate temperatures before arriving at a final temperature. That is,

heating a standard object "at" a particular temperature involves heating it through intermediate ranges to reach the stated temperature (see also paragraphs 0013 and 0014, describing standard heating processes for components). Related to these points, as stated in the 06/07/2007 Reply, the Czech US Patent No. 6,217,668 cited reference teaches, at column 5, lines 58-60, that for its method, aluminization should always occur below the solution temperature. Conversely, the Declaration of Brij B. Seth under 37 CFR 1.132 informs that the claimed ". . .heat treating . . . at a temperature sufficient . . . to prevent the gamma prime phase from reforming" occurs at or above the solution temperature.

At a minimum, based on the above it is reasonable to conclude that as a bonding layer remaining portion is heated up to the solution temperature there is aluminization occurring below the solution temperature, and at or above the solution temperature a second effect of the heating treating step is achieved, namely prevention of the gamma prime from reforming. This heat treating is a single step within the meaning of steps in method claims, yet need not achieve both the aluminization and the gamma prime phase not reforming at the same time or at the same temperature. It is noted for the record that this reasoning does not exclude the possibility of having some aluminization occur while the prevention of gamma prime from reforming is occurring (i.e., at or above the solution temperature); the point is that there is no requirement of the occurrences being simultaneous within the heat treating step.

Further, it is not clear why this more stringent requirement, of same time or same temperature, is being placed upon these Applicants who are merely reciting a heat treating method step to achieve the stated effects or results.

As to the Examiner's statement regarding paragraphs 0037 and 0038, Applicants bring to the Examiner's attention paragraph 0036, which is properly viewed as an introductory paragraph to paragraphs 0037-0039. The language, admittedly translated from German, speaks to a single method. The alternatives in the specification are to be viewed as different bases for solving the problem that may, in the claimed embodiment of the method, be effective in different areas of the bonding layer remaining portion, or to different degrees in a particular area of the bonding layer remaining portion. Accordingly, the "on the other hand" transition does not exclude the teaching of heat treating to achieve both aspects as claimed, but only to indicate that both may be operative independently during the heat treatment and may have independent effects thereafter to achieve the claimed uniform removal. Finally as to this point, it is noted that the last sentence of

paragraph 34 supports this evaluation, "The diffusion and heat treatment can also give rise to the formation of new phases which can be removed more easily by an acid bath 19 (fig. 4)."

Accordingly, for one or more of the above, reconsideration and withdrawal of this basis of rejection are respectfully requested.

Claims 28, 29, 34, 38, 39, 43, and 47 stand rejected under 35 USC 112, first paragraph, for allegedly failing to comply with the enablement requirement.

The above clarification and argument are incorporated into this section.

There is no reason or need to describe "how to provide [that] both the conversion to aluminum rich beta phase and preventing the gamma prime phase from reforming occur at the same time or for that matter at the same temperature." As stated above, there is no requirement for this, and there is evidence that aluminization will occur at least in part below the solution temperature, while at or above the solution temperature the prevention of reforming gamma prime phase will be effectuated, and that in a standard component heating step there will be an increase in temperature through an intermediate temperature range (from initial to target temperature) so that these phenomenon need not occur at the same time or temperature. The Declaration of Brij B. Seth under 37 CFR 1.132, states that, based on being "knowledgeable as to the processes that are involved in the general field of treatment of metal alloys," that "at or above the solution temperature of a particular metal alloy, the γ' (gamma prime) phase dissolves into the γ phase and will not reform." This provides clear evidence that the application, in view of what is known to those skilled in the art, enablingly teaches that the heat treating will include a period of time during which the remaining portion of the bonding layer of the component is at a temperature at or above the solution temperature of the bonding layer alloy(s).

Accordingly, for one or more of the above, reconsideration and withdrawal of this basis of rejection are respectfully requested.

Claims 28, 29, 34, 38, 39, 43, and 47 stand rejected under 35 USC 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

On page 4 of the Office action it is stated that "The claims require heating to a temperature sufficient to convert the phases to aluminum rich beta phase; however, it is unclear

what temperature is sufficient to convert such phases as claimed. Therefore, for the purposes of applying art the examiner is applying any heat treatment will necessarily have the same results."

First, it appears a word is missing from the concluding sentence, though Applicants believe they understand the basis for this rejection. Nonetheless, correction of this basis is respectfully requested.

It appears that the statement referring to the phase conversions refer to claims as claimed prior to the last Response and the present one. As previously stated, and as claims 28 and 38 now stand amended, and in view of previously submitted Declaration of Brij B. Seth Under 37 CFR 1.132 stating that the latter occurs at or above the solution temperature, the alleged indefiniteness is overcome. That is, it is clear that in order to operate the claimed method, it is inherently necessary that a portion of the heat treating step occur at or above the solution temperature.

Applicants moreover respond herein to the Examiner's statement on page 2 of the 08/15/2007 Final Office action, referring to this rejection and stating that this "rejection is based on the fact the claims and/or specification fails to specify the metes and bounds of a heat treatment sufficient to heating to a temperature sufficient to convert the phases to aluminum rich beta phase, which is explicitly required by the claim." Having established by the noted Declaration that one of ordinary skill in the art would understand that to achieve "prevent[ing] the gamma prime phase from reforming" would require a high temperature of the heat treating being at or above the solution temperature of the alloy, and knowing from the art, as supported by the Czech US Patent No. 6,217,668 cited reference, at column 5, lines 58-60, that aluminization does occur below the solution temperature, and knowing that normally there is a temperature rise of the component being treated from an ambient temperature through an intermediate range to a high temperature of the treatment, it appears that there is sufficient teaching in the specification and supported by knowledge in the art to support that one of ordinary skill in the art would understand from the claims and the specification the metes and bounds of a heat treating step sufficient to achieve both "convert[ing] gamma and gamma prime phases in degradations in the remaining portion to an aluminum rich beta phase, and to prevent[ing] the gamma prime phase from reforming." That is, one of ordinary skill in the art would know the heat treating would need to at least reach the solution temperature of the alloy and would need to include sufficient time (at one or more temperatures or temperature ranges) to

also achieve a desired degree of aluminization. Applicants conclude this line of argument by stating that, to one of ordinary skill in the art, the claim that requires the satisfaction of the above-quoted two functional requirements is definite based on that person's knowledge of what temperatures are required to satisfy these requirements for particular alloys. It is known in the law that a functional limitation does not per se render a claim indefinite or improper. Here, the presence of two, combined functional aspects renders the claim sufficiently definite to one of ordinary skill in the art (and even more definite than only one functional limitation by itself).

Further, as to this and the other rejections, there is no need that a heat treating step, as that is currently understood and practiced in the art, occur only at one temperature or temperature range. Yet the subject matter being claimed must be sufficiently definite to "particularly point out and distinctly claim the subject matter which applicant regards as the invention." It is respectfully asserted that the claimed subject matter does this by requiring that the heat treating is sufficient to both convert the gamma and gamma prime phases in degradations to an aluminum rich beta phase, and to prevent the gamma prime phase from reforming. As indicated above, Applicants have provided a modification to the heat treating limitation in claim 28 in order to more clearly state this, and would be willing to make the same amendment in claim 38 if so requested or allowed (such as under 37 CFR 1.312).

Accordingly, for one or more of the above, reconsideration and withdrawal of this basis of rejection are respectfully requested.

Conclusion

The above are believed to place the application into condition for allowance. Reconsideration of the application is respectfully requested.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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